

## **REMARKS**

Claims 1, 3, 4, 6-9, 12, 14, 15, and 17-20 are pending in the application. Applicants gratefully acknowledge the Examiner's withdrawal of the prior art rejections and Examiner's indication that claims 9 and 20 are allowed.

### **Claim Rejections - 35 U.S.C. § 112**

(1) Claims 1, 3, 4, 6-8, 12, 14, 15 and 17-19 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement, for the reasons set forth on pages 2-4 of the Office Action. The Examiner essentially contends that Applicants' specification does not describe the claimed process of comparing an extracted image features with a trained model comprising images from two template classes (one having a marker and one not having a marker).

(2) Claims 1, 3, 4, 6-8, 12, 14, 15 and 17-19 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enabling requirement for the reasons set forth on pages 4-5 of the Office Action. The Examiner essentially contends that Applicants' specification is non-enabling in regards to how the extracted image features are compared with a trained model comprising two template classes.

Applicants respectfully traverse the above rejections and strongly disagree with Examiner's contentions in support of such rejections. Indeed, the Examiner's rejection is based on one disclosed embodiment, but Examiner fails to consider other disclosed embodiments.

In particular, respect to the written description requirement, Applicants' Specification (hereinafter, "Spec.") is replete with clear, explicit support for the claimed process of comparing an extracted image features with a trained model comprising images from two template classes (one having a marker and one not having a marker).

For instance, the Summary of the Invention (page 4 of Spec.), states:

In another aspect of the invention, the template-based recognition process compares the input image with one or more template images [having] a target marker and one or more template images not comprising a target marker.

Furthermore, page 14 of the Spec. states:

In another embodiment of template-based recognition (referred to herein as an “automatic” process), the recognition process is performed using both template classes (i.e., good and bad). In this case, as explained below, a rejection interval is based on the distributions of the correlation coefficients computed for templates in each template class.

Furthermore, page 16 of Spec. states:

Next, the target image is classified (i.e., reject/not reject) based on the computed correlation(s) (step 68). There are various embodiments according to the invention for implementing the classification step (i.e., step 68). For instance, in one embodiment, if the computed correlation coefficient for a given “bad” template image meets a predetermined threshold value, a marker is deemed detected, or if the computed correlation coefficient (for a given “good” template image) meets a predetermined threshold value, a marker is deemed *not* detected. In another embodiment, as noted above, if the target image is compared to multiple templates, classification will be based on the template image corresponding to the greatest computed correlation coefficient.

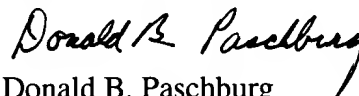
Furthermore, page 17, et. seq. of Spec. states that:

The automatic threshold determination process requires templates from both classes. Given an overlapping distribution of correlation coefficients as shown, for example, in Fig. 7, the rejection interval is determined to be the interval between the lowest correlation coefficient of the “bad” template class (Class 2)

and the highest correlation coefficient of the "good" template class (class 1). If both distributions do not overlap, as illustrated in Fig. 8., the rejection interval is centered between the maximum correlation coefficient of Class 1 and the minimum correlation coefficient of class 2. The width of the rejection interval is preferably defined to be half of the distance between the maximum correlation coefficient of Class 1 and the minimum correlation coefficient of class 2.

Similarly, with respect to the enabling requirement, the Spec. is replete with clear, explicit enabling support with regards to how the extracted image features are compared with a trained model comprising two template classes. At the very least, the above cited passages provide an enabling description, rendering the rejections legally deficient and unsupportable on their face. Indeed, it is abundantly clear the Applicants' description with regards to Figs. 6, 7 and 8 provide legally sufficient description and enabling support for the claimed subject matters of claims 1 and 12 and claims depending there from. Accordingly, for at least the above reasons, the 112 rejections, first paragraph, should be withdrawn.

Respectfully submitted,



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